

**OFFICIAL TRANSCRIPT PROCEEDING**

**FEDERAL TRADE COMMISSION**

MATTER NO. 1323212

TITLE LUMOSITY MOBILE & ONLINE  
COGNITIVE GAME

DATE RECORDED: UNKNOWN  
TRANSCRIBED: AUGUST 6, 2014

PAGES 1 THROUGH 5

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

## ADVERTISEMENT - 1944

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

FEDERAL TRADE COMMISSION

I N D E X

RECORDING:

Recorded Advertisement

PAGE:

3

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

FEDERAL TRADE COMMISSION

In the Matter of: )  
Lumosity Mobile and Online ) Matter No. 1323212  
Cognitive Game )  
-----)

The following transcript was produced from a digital recording provided to For The Record, Inc. on August 4, 2014.

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

P R O C E E D I N G S

- - - - -

MALE SPEAKER: I can tell a big difference, decisions come quicker, I m more productive. It s serious brain training, it just feels like games.

Well, Lumosity.com is based on neuroscience, so I figured if I want to get smart, I have to start smart, you know.

MALE SPEAKER: No matter why you want a better brain, Lumosity.com can help. It s like a personal trainer for your brain, improving your performance with the science of neuroplasticity, but in a way that just feels like games.

Start training with Lumosity.com right now and discover what your brain can do.

**(The recording was concluded.)**

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

C E R T I F I C A T I O N     O F     T Y P I S T

MATTER NUMBER: 1323212

CASE TITLE: LUMOSITY MOBILE AND ONLINE COGNITIVE GAME

TAPING DATE: UNKNOWN

TRANSCRIPTION DATE: AUGUST 6, 2014

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the tapes transcribed by me on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: AUGUST 6, 2014

---

KATHY J. DeMENT

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555

C E R T I F I C A T I O N   O F   P R O O F R E A D E  
R

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation and format.

---

SARA J. VANCE

For The Record, Inc.  
(301) 870-8025 - [www.ftrinc.net](http://www.ftrinc.net) - (800) 921-5555



HUMAN COGNITION PROJECT

USER STORIES

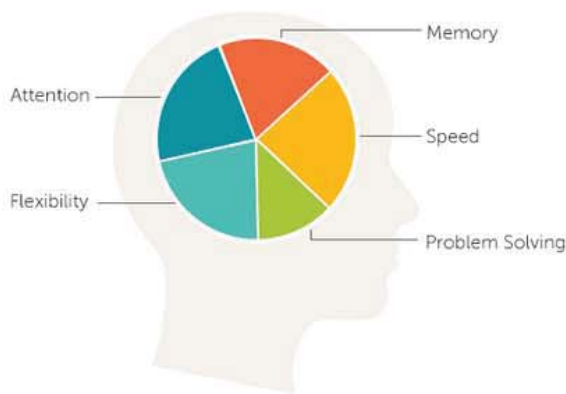
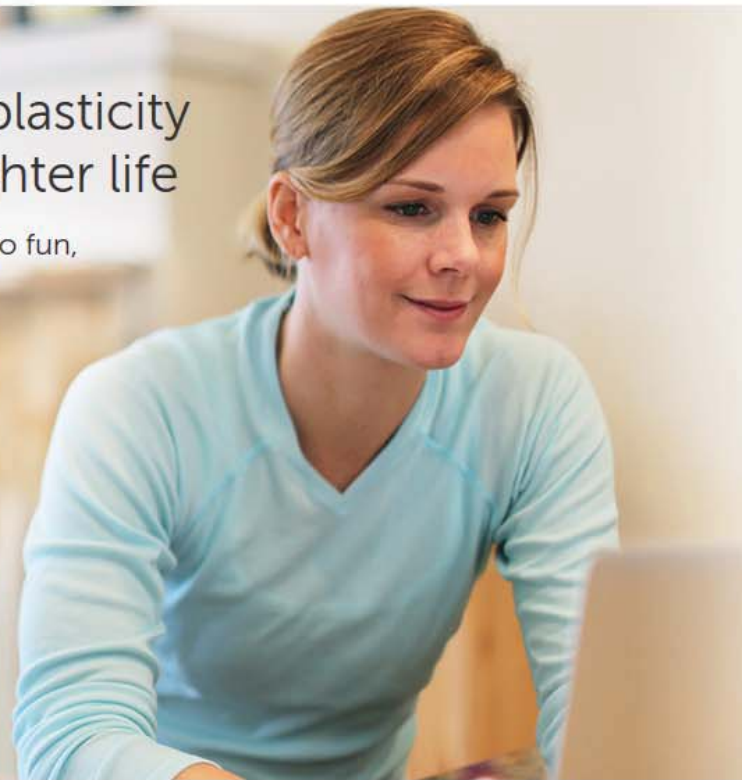
START TRAINING

LOG IN

# Harness your brain's neuroplasticity and train your way to a brighter life

Lumosity turns neuroscience breakthroughs into fun, effective games. Stimulate your brain today.

Start Training →



## Deeply personalized training

Your brain's abilities are unique. That's why your Personalized Training Program adapts to fit your brain and your life goals.

## Scientifically designed games

Research shows that your brain creates new neural circuitry when challenged—our scientists have turned those challenges into cognitive games that improve core cognitive functions.







Just 10 hours of Lumosity training can create drastic improvements. Track your own amazing progress with our sophisticated tools.

## Built on proven neuroscience research

Lumosity is based on the science of **neuroplasticity**—your brain's ability to strengthen and grow. Multiple research papers have been published on Lumosity's effectiveness—and with its ongoing research collaborations, Lumosity continues to improve its ability to change your brain.

[LEARN MORE ABOUT THE SCIENCE](#)

## Trusted by over 35 million users

[READ MORE STORIES](#)

Playing Lumosity has improved my concentration and mental activity, helping me to be a better programmer.

Jason P.

Lumosity helps me to feel mentally agile. My mental math has gotten better and I'm more productive at work.

Melissa W.

Lumosity has made me aware of the areas I need to improve on. When I see progress, I feel energized and positive.

Cory V.



[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)



START TRAINING

LOG IN

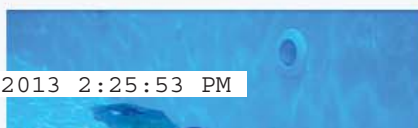
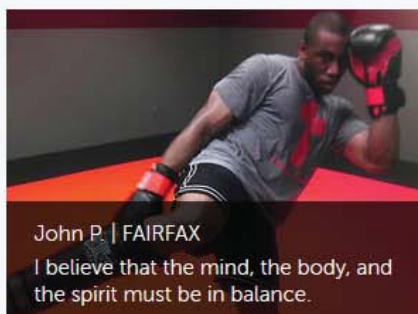
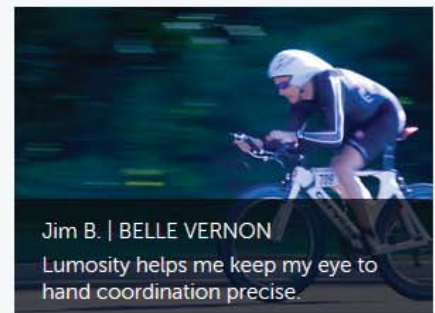
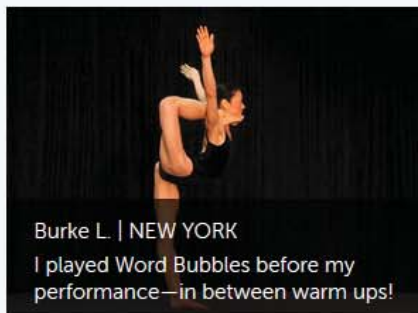
# Discover a brighter life



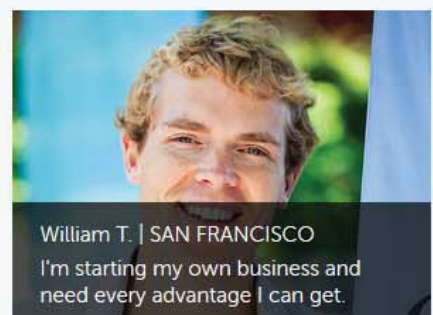
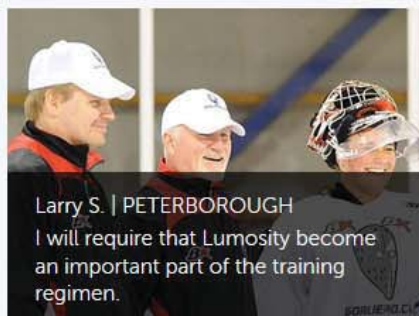
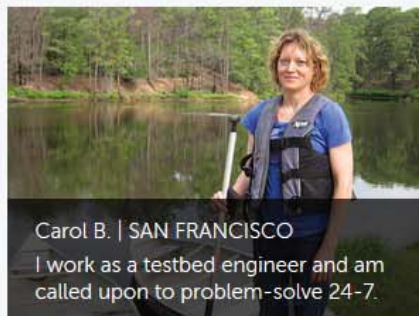
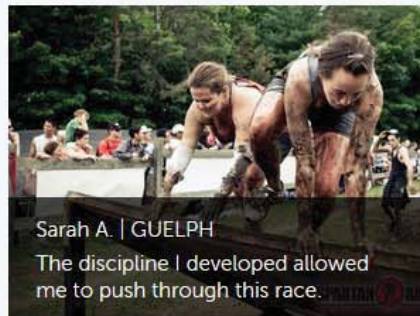
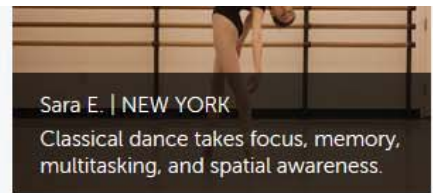
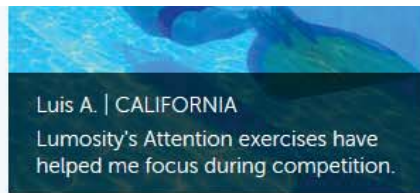
**Mimi T. | SAN FRANCISCO**

I play Lumosity because I want to train my brain to become more alert and responsive in all areas.

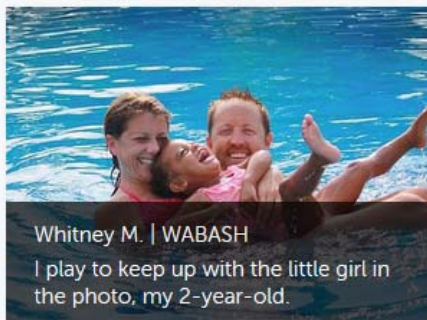
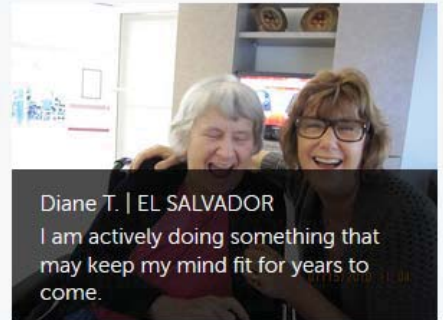
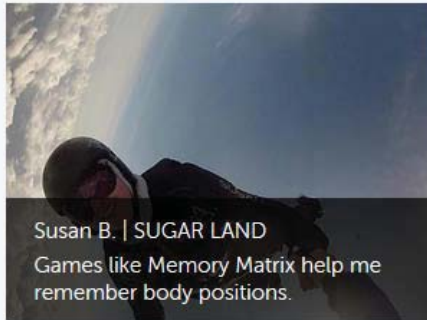
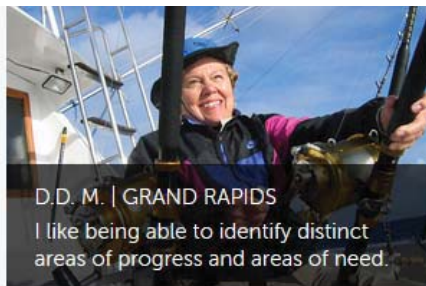
## Here are a few reasons why people play Lumosity












Build your Personalized Training Program - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Build your Personalized Training Program - L... +

www.lumosity.com/app/v5/personalization/memory

Google

 Already have an account? [LOG IN](#)


# Build your Personalized Training Program


Memory Attention Speed Flexibility Problem Solving


→ Your Personalized Training Program


## 1. Memory

Select all aspects of your memory that you want to train


☐ Recalling the location of objects


☐ Remembering names after the first introduction


☐ Learning new subjects quickly and accurately


☐ Keeping track of several ideas at the same time

**Your responses shape your Lumosity program**

We'll create simple daily workouts with exercises that reflect your choices. Informed by neuroscience research, Lumosity exercises are engineered to train a variety of core cognitive functions.

[Next →](#)

ABOUT LUMOSITY HUMAN COGNITION PROJECT USER STORIES CONTACT JOBS PRESS LEGAL ACTIVATION CODES HELP


Build your Personalized Training Program - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Build your Personalized Training Program - L... +

www.lumosity.com/app/v5/personalization/attention

Google

 Already have an account? [LOG IN](#)


# Build your Personalized Training Program


Memory Attention Speed Flexibility Problem Solving


✓ — ● — — — — → Your Personalized Training Program


## 2. Attention

Select all aspects of your attention that you want to train

 Maintaining focus on important tasks all day ☐

 Improving productivity and precision at work or home ☐

 Concentrating while learning something new ☐

 Avoiding distractions ☐

**Your brain has the power to change**

Scientists have discovered that the brain can reorganize itself in response to new challenges, even through adulthood. Guided by this research, Lumosity training is designed to unlock your full potential.

[Next →](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)




Build your Personalized Training Program - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Build your Personalized Training Program - L... +

www.lumosity.com/app/v5/personalization/speed

Google





 Already have an account? [LOG IN](#)

## Build your Personalized Training Program

Memory Attention **Speed** Flexibility Problem Solving → Your Personalized Training Program

### 3. Speed

Select all aspects of your processing speed that you want to train

	Decision-making in time-sensitive situations	<input type="checkbox"/>
	Speeding up cognitive processes	<input type="checkbox"/>
	Adapting to changing environments	<input type="checkbox"/>
	Reacting quickly	<input type="checkbox"/>

**Designed by neuroscientists**

Lumosity exercises are designed by neuroscientists and continually evaluated through independent research studies at institutions such as Harvard, Stanford, and UC Berkeley.

[Next →](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)


Build your Personalized Training Program - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Build your Personalized Training Program - L... +

www.lumosity.com/app/v5/personalization/flexibility

Google

 Already have an account? [LOG IN](#)


## Build your Personalized Training Program


Memory Attention Speed Flexibility Problem Solving


✓ ✓ ✓ ● → Your Personalized Training Program


### 4. Flexibility

Select all aspects of your mental flexibility that you want to train

 Communicating clearly ☐

 Thinking outside the box ☐

 Avoiding errors ☐

 Multi-tasking quickly and efficiently ☐

**A simple, convenient training program**

Analysis of our database shows that just 10-15 minutes of Lumosity training per day can lead to improvements in Lumosity over time.

Train online or on your mobile device.

[Next →](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)




Build your Personalized Training Program - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Build your Personalized Training Program - L... +

www.lumosity.com/app/v5/personalization/problemsolving

Google

 Already have an account? [LOG IN](#)


## Build your Personalized Training Program


Memory Attention Speed Flexibility Problem Solving


✓ ✓ ✓ ✓ ● → Your Personalized Training Program


### 5. Problem Solving

Select all aspects of your problem solving skills that you want to train

 Dissecting complex arguments ☐

 Making quick and accurate estimations ☐

 Calculating figures in your head ☐

 Determining the best course of action ☐

**What our users say**

While every user's experience is different, many Lumosity users report positive results that include better memory, faster problem-solving skills, and increased alertness.

[Next →](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)


Create a free account - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Create a free account - Lumosity

https://www.lumosity.com/app/v5/personalization/account/new

Google


 lumosity

Already have an account? [LOG IN](#)

## Create a free account to see your Personalized Training Program

Create Account

Your Personalized  
Training Program is  
almost ready!



[Get Involved →](#)

## Lumosity's Human Cognition Project revolutionizes our understanding of the human brain.

The Human Cognition Project (HCP) is a groundbreaking collaboration between researchers worldwide. Neuroscientists, clinicians, teachers, and academics are coming together to advance the field of neuroscience.

Lumosity now has the world's largest and fastest growing database on human cognition—which currently includes over 40,000,000 research subjects and over 780,000,000 cognitive gameplays. Our scientists mine this data to uncover insights that help them improve the efficacy of the Lumosity cognitive training program.

### The Research Behind Lumosity

Learn about the science behind Lumosity's training program. Read peer-reviewed articles and find out about ongoing research from HCP collaborators.

[LEARN MORE](#)

### Get Involved in the HCP

Sign up to contribute to the HCP research effort today. Open to researchers, educators, clinicians, volunteers, and more.

[LEARN MORE](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)

GO TO LUMOSITY HOME



Get Involved →

OVERVIEW

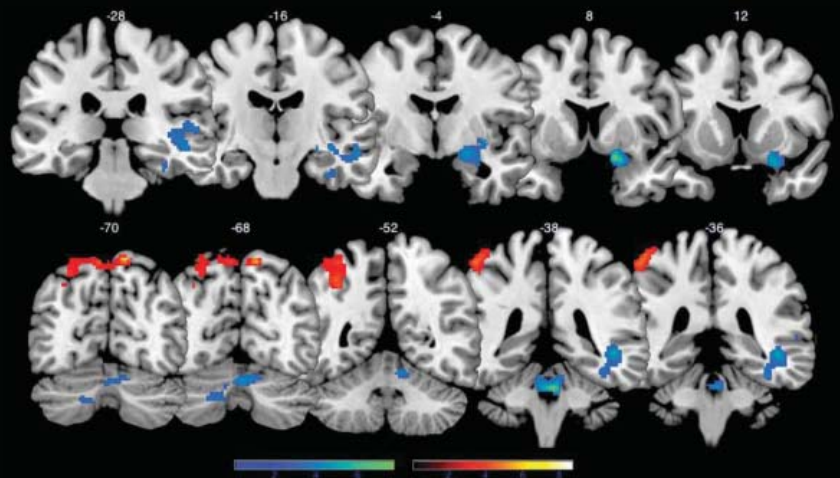
COMPLETED RESEARCH

ONGOING RESEARCH TOPICS

BIBLIOGRAPHY

OUR TEAM

## The Research Behind Lumosity



### Completed Research

15 summaries

Read summaries of peer-reviewed papers and conference presentations on the efficacy of Lumosity training.

[Learn More](#)


### Ongoing Research

38+ projects

Learn about current projects from the global HCP network. [Learn More](#)



### Bibliography

24 items

View a bibliography of all HCP articles, papers, posters, and presentations in one place. [Learn More](#)

Or if you'd like to understand the basics of neuroscience, read our [Neuroscience 101 guide](#).

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)





Get Involved →

OVERVIEW

COMPLETED RESEARCH

ONGOING RESEARCH TOPICS

BIBLIOGRAPHY

OUR TEAM

## Completed Research behind Lumosity

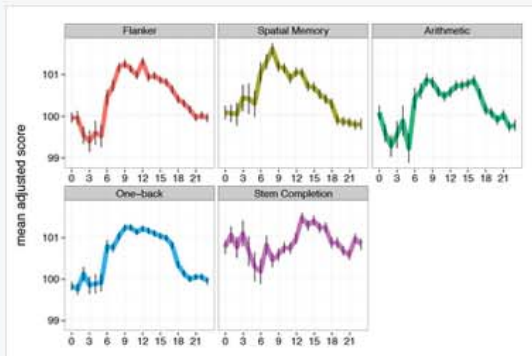


### RESEARCH FROM HCP COLLABORATORS

## Lumosity can improve key skills that affect quality of life

A 2013 peer-reviewed study from Stanford University shows that Lumosity training can improve the brain's executive functions, which are a key driver of everyday quality of life. Dr. Shelli Kesler found that women who completed about 12 weeks of Lumosity training improved significantly on a common neuropsychological test (the WCST) compared to a control group of women that did not train. The training targeted skills such as working memory, verbal fluency, processing speed, and cognitive flexibility. [Read more](#)

[View the original paper in Clinical Breast Cancer](#)

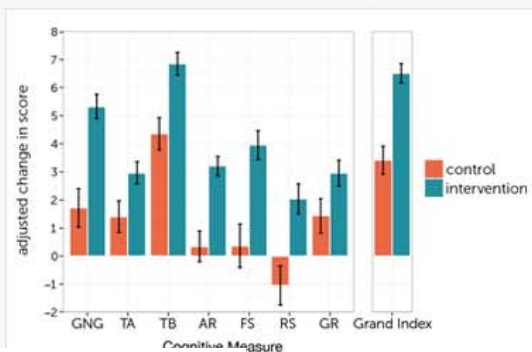


### RESEARCH FROM LUMOS LABS

## Lumosity game performance is linked to when users train

Lumosity users tend to do better on working memory and attention tasks in the morning, but reach peak performance in creative tasks later in the day. This analysis was based on data from 714,188 users.

[View the original poster](#)

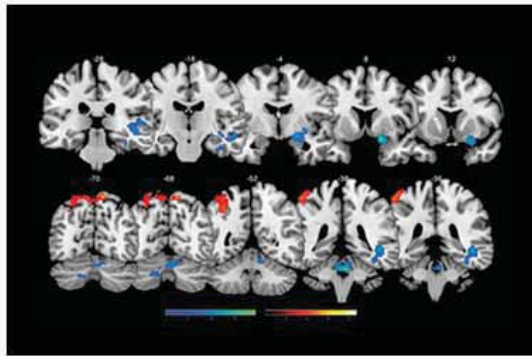


### RESEARCH FROM LUMOS LABS

## Large-scale study on how students can benefit from Lumosity

1204 students from 40 different schools participated in a semester-long study of Lumosity in the classroom. Students who supplemented their regular curricula with Lumosity training improved more than a control group on a battery of cognitive assessments.

[View the original poster](#)



## RESEARCH FROM HCP COLLABORATORS

## Lumosity increases prefrontal cortex activity in cancer survivors

A published study by Dr. Shelli Kesler of Stanford University Medical School shows that Lumosity can improve cognition in childhood cancer survivors. 23 pediatric cancer survivors completed 40 sessions of Lumosity training to combat "chemofog"—and they significantly increased processing speed, cognitive flexibility, and memory recall. In addition, brain imaging results showed increased activity in the prefrontal cortex, a part of the brain associated with the ability to plan, organize information, and focus attention.

[Read more](#)

[View the original paper in Brain Injury](#)



## RESEARCH FROM LUMOS LABS

## Healthy adults can benefit from Lumosity training

A collaboration between Lumos Labs and researchers from Stanford and UCSF has yielded the first peer-reviewed, controlled trial to demonstrate that web-based cognitive training can significantly enhance cognitive performance in healthy adults. 23 participants (mean age 54) did Lumosity training for 5 weeks, after which they improved visual attention and memory in untrained assessments by 20% and 10%, respectively. The control group that did not train did not improve. [Read more](#)

[View the original paper in Mensa Research Journal](#)



## RESEARCH FROM LUMOS LABS

## Lumosity gives students a boost in classrooms worldwide

1,392 students from 43 different schools took part in an investigation of Lumosity's effect on academic performance as part of the Lumosity Education Access Program (LEAP). Students aged 6 to 18 took standardized assessments of cognitive performance before and after Lumosity training to measure baseline improvement. After several weeks, the trained group improved significantly over the education-as-usual control group on these standardized assessments. And the more training, the larger the improvements. [Read more](#)

[View the original poster](#)

## RESEARCH FROM HCP COLLABORATORS

## Lumosity can enhance brain function





## and math skills in girls with Turner syndrome

Training with Lumosity can enhance cognitive function and change the way the brain processes math, according to a study by Dr. Shelli Kesler. Kesler worked with 18 girls with Turner syndrome--a genetic disorder known to disrupt cognitive functioning and produce deficits in math ability. Participants used special math-focused Lumosity training over the course of 6 weeks and experienced clinically significant improvements in processing speed, cognitive flexibility, visual attention, and math skills on tests. fMRI brain scans revealed changes in brain activity in the frontal and parietal regions related to executive control and attention. [Read more](#)

[View the original paper in Neuropsychological Rehabilitation](#)

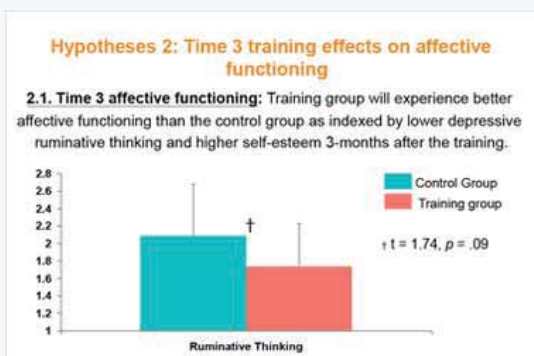


### RESEARCH FROM HCP COLLABORATORS

## Lumosity improves sustained attention in study of mild cognitive impairment

Researchers at the University of New South Wales in Sydney, Australia published research showing that Lumosity training improved cognition in older adults with mild cognitive impairment (MCI)--a disease linked to Alzheimer's. The study's 16 participants completed 30 sessions of Lumosity training over the course of 8-10 weeks and improved at a visual sustained attention test. Another group of participants served as controls and received regular treatment without cognitive training. [Read more](#)

[View the original paper in Brain Impairment](#)



### RESEARCH FROM HCP COLLABORATORS

## Lumosity training holds promise for emotional regulation

Dr. Anett Gyurak of Stanford University used Lumosity training to target skills necessary for emotional well-being in both healthy adults and patients with Generalized Anxiety Disorder/Major Depressive Disorder. Participants underwent a combined training regimen that included 30 days of Lumosity training (for healthy adults) or 30 days of a training regimen that combined Lumosity games and emotional processing games (for patients). A variety of pre/post tests found that healthy adults demonstrated reductions in anxiety and depression, and increases in beneficial emotional processing. Patients experienced similar benefits in symptom reduction. You can visit Dr. Gyurak's lab website [here](#). [Read more](#)

[View the original poster](#)

### RESEARCH FROM LUMOS LABS

## Training creates long-lasting



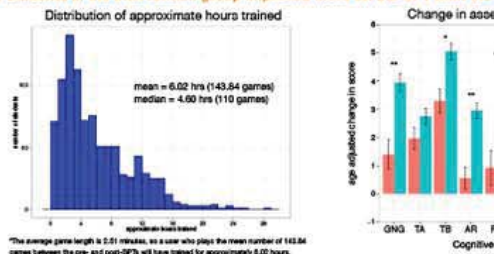
## improvements

Training-related improvements in cognitive performance persist over time but depend on age. Results from an online study of 140,000 participants. [Read more](#)

[View the original poster](#)

### Results

#### 1. Students in the intervention group improved more on the BPT than the



#### 2. Larger doses of training predict larger improvements on the BPT

### RESEARCH FROM LUMOS LABS

## Lumosity improves math skills in teens

A sample of 440,000 users aged 13 to 17 revealed that Lumosity created dramatic improvements in arithmetic abilities in adolescents and young adults.

[View the original poster](#)

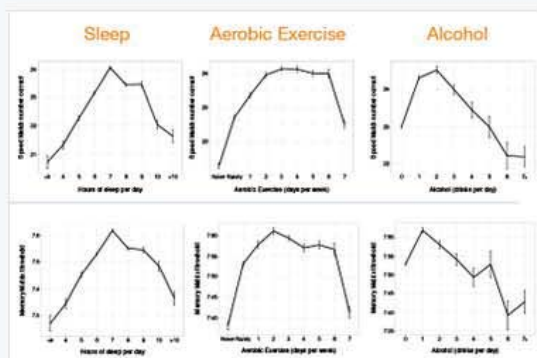


### RESEARCH FROM LUMOS LABS

## Age's effects on learning

The rates of both age-related cognitive decline and training improvement depend on the cognitive tasks. Over 20,000 individuals' baseline scores and training improvements were analyzed in four distinct cognitive domains.

[View the original poster](#)



### RESEARCH FROM LUMOS LABS

## How lifestyle relates to cognition

Top cognitive performance on 3 Lumosity games was associated with lifestyle factors such as sleep, exercise, and alcohol in a sample of 127,048 people.

[Read more](#)

[View the original poster](#)

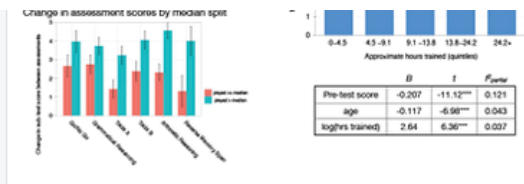
#### 3. Larger doses of training predict larger improvements on the BPT



### RESEARCH FROM LUMOS LABS

## Investigating Lumosity's Brain Performance Test (BPT)





Lumosity's in-house Brain Performance Test is a reliable benchmark of cognitive performance when compared to existing validated brief intelligence tests, such as the Wechsler Abbreviated Scale of Intelligence (FSIQ-2, 15 minute version,  $r = 0.88$ )<sup>5</sup>. Performance on Lumosity's BPT changes with age in the same way as performance on fluid intelligence tasks. More cognitive training is associated with larger improvements on the Brain Performance Test.

[View the original poster](#)



#### RESEARCH FROM LUMOS LABS

## Lumosity training transfers to multiple measures of cognitive performance

Analysis of Lumosity's user database revealed a significant relationship between completing Lumosity exercises and improving at measures of problem solving, task switching, and processing speed. This work described a model that takes into account the cognitive distance between training tasks and assessments, capturing more variability in assessment performance.

[View the original poster](#)

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)

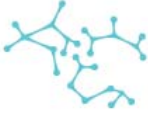
Lumosity - Ongoing Research Behind Lumosity - Lumosity - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Lumosity - Ongoing Research Behind Lumosit... +

hcp.lumosity.com/research/ongoing

GO TO LUMOSITY HOME

 **THE HUMAN  
COGNITION PROJECT**

Get Involved →

OVERVIEW COMPLETED RESEARCH **ONGOING RESEARCH TOPICS** BIBLIOGRAPHY OUR TEAM

## Ongoing Research Topics

1. ADHD and Lumosity: can cognitive training help with ADHD?
2. Correlating lifestyle and health choices with cognitive performance and learning ability
3. Understanding the effect of sports, exercise, and Lumosity
4. How brain injured populations (TBI/ABI/mTBI) are affected by Lumosity training
5. Assessing Lumosity's effect on stroke patients
6. Looking at mood disorders and Lumosity
7. Assessing how multiple sclerosis patients could be helped with the use of Lumosity
8. Modeling learning curves on Lumosity games
9. Behavioral economics and Lumosity
10. How Lumosity can help soldiers recover from traumatic brain injury and post-traumatic stress disorder
11. How Lumosity can change the cognition of young adults at risk for schizophrenia

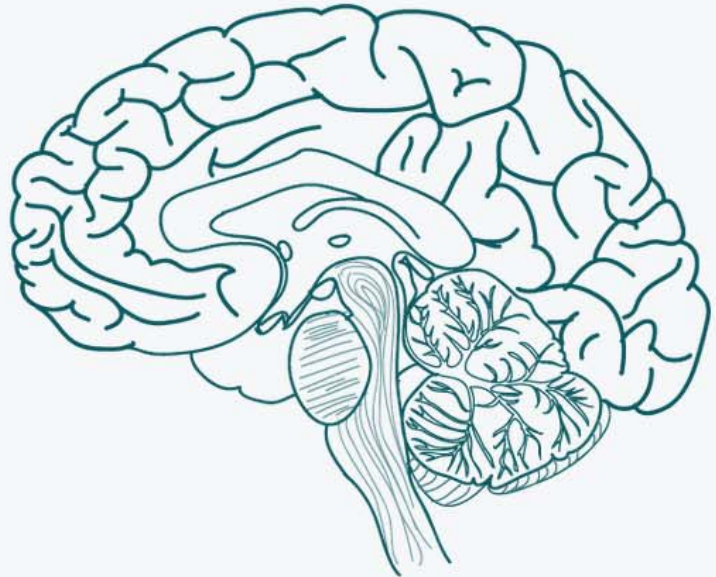
ABOUT LUMOSITY HUMAN COGNITION PROJECT USER STORIES CONTACT JOBS PRESS LEGAL ACTIVATION CODES HELP

[Get Involved →](#)[OVERVIEW](#)[COMPLETED RESEARCH](#)[ONGOING RESEARCH TOPICS](#)[BIBLIOGRAPHY](#)[OUR TEAM](#)

## Your brain is amazing. Learn just how much it can do.

Over the last few decades, neuroscientists have learned that your brain has the amazing ability to grow and change at any point in your lifetime. This breakthrough has opened the door to myriad possibilities, from increasing intelligence and memory in daily life to recovering from traumatic injuries.

Learn about the basic science behind:  
[neuroplasticity](#), [research in the field](#), and  
[brain training](#).



Teach me!





## Neuroplasticity: the incredible, flexible brain

Your brain has the innate ability to physically change itself when faced with new, challenging experiences. This ability is called **neuroplasticity**.

Your brain's billions of **neurons**—its cellular building blocks—interact with each other in complex ways. Signals travel from one neuron to another down intricate **neural pathways** whose structures determine your thoughts, impulses, emotions, insights, and more.

As our brains age through childhood, these neural pathways change: less-used pathways are pruned away

while pathways that you use regularly grow stronger. **Each task relies on a different neural pathway.**

Neuroplasticity is your brain's ability to **create neural pathways** and reshape existing ones—even as an adult. Your brain makes these small changes naturally throughout your lifetime. But when neuroplasticity's potential is thoughtfully and methodically explored, this physical reorganization can make your brain **faster and more efficient** at performing all manner of tasks—no matter how large or small they may be.

Prove it to me



## A rich body of neuroplasticity research

Neuroplasticity suggests that anyone can improve their brain, no matter what their age or background. A growing body of research adds more credence to this concept every day.

course of six weeks, elderly participants gained **skills that transferred to real-world abilities**—they experienced fewer declines in their ability to perform basic daily activities.

Jun 14, 2013 2:29:11 PM

Recently, Dr. Susanne Jaeggi from the University of Michigan found that young adults improved **fluid intelligence** performance after training with a working memory task called dual n-back (Jaeggi, et al., 2008). Fluid intelligence is the type of dynamic problem-solving that you use when encountering new challenges—it's what most people mean by "intelligence."

A study of over 2,000 elderly adults in 2002 suggests that even older brains have plenty of room to improve and learn. (Ball, et al., 2002). After 10 hours of training over the

And finally, Lumos Labs collaborated with Stanford and San Francisco State University researchers to publish a groundbreaking study showing that **healthy adults benefit** from web-based cognitive training (Hardy et al., 2011). Participants in this peer-reviewed controlled trial saw 20% improvements in visual attention and 10% improvements in working memory.

The body of evidence for neuroplasticity and brain training is constantly growing. For a full picture of HCP research on these topics, see the [Research Behind Lumosity](#).

Tell me how to use this



## How you can harness your brain's abilities

You, too, could achieve amazing improvements. But not every experience can rewire your brain for the better: in order to fully harness the power of neuroplasticity, you need to **challenge your brain** with training that's novel, adaptive, and complete.

such as Sudoku and crosswords don't increase intelligence—the more you play these games, the more you retrace overlearned pathways in your brain. You need carefully calibrated challenges to really strengthen and stretch your brain.

This complex formula explains why some popular games



Explain this formula



## Novelty forces your brain to change

Novel challenges present unexpected obstacles, forcing your brain to work in new ways. When your brain encounters these new challenges, it must remodel its existing circuitry and find new pathways for information processing.

That's because the brain assigns special neural pathways for each type of task. Just as you use different muscle

groups for running and swimming, so you use different neural circuitry for reading and watching a movie. Familiar tasks simply reactivate existing circuitry—which can keep your brain active, but won't change or improve it in fundamental ways.

## Adaptivity keeps your brain challenged

You have a unique set of cognitive strengths and weaknesses. A task that's easy for someone else may be a challenge to you, and vice versa.

In order to improve, you need tasks appropriate for your brain's ever-changing ability levels. As your brain becomes stronger, it's able to handle tougher challenges. This response to challenges is a **key part of neural growth**, and you need challenges that adapt quickly enough to push you.

That's where online cognitive training is truly breaking ground. Cutting-edge technology makes it possible for online games to adapt to your brain on a moment-by-moment basis. That's why we call Lumosity a **personal trainer for your brain**—like a personal trainer, we know you well enough to push you to be even better.

## A complete program makes sure you're improving in every way

Your brain is a complex machine with parts that work together. That's why it's important to get **complete** details and dialogue. You need to store and manipulate information in your working memory throughout the movie to understand how all of it ties together.

es multiple core brain functions—even the simplest tasks draw upon more

than one cognitive ability.

Imagine watching an action movie. You need to process information quickly to understand how the plot evolves. You need to pay sharp attention or you'll miss key

Even the simplest tasks require a sophisticated choreography of neural activity. That's why it's important to get **balanced training** that exercises a wide variety of skills—and improves abilities you need to successfully navigate your daily life.

What does this mean for me?



## Brain training has the potential to change lives

Neuroplasticity can have wide-ranging applications if properly and carefully explored. Researchers have used brain training to rehabilitate patients with brain trauma, chemofog, Mild Cognitive Impairment, and more. But healthy people have also used brain training to sharpen

their daily lives and ward off cognitive decline. You, too, can harness the power of neuroplasticity to remember more, think faster, and **achieve your full potential** in every aspect of life. The benefits may well be endless.



START TRAINING

LOG IN

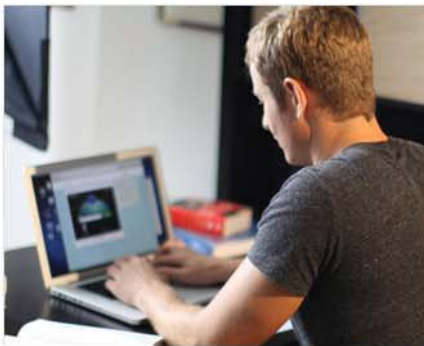
## About Lumosity

OVERVIEW

OUR TEAM

PARTNERS

At Lumos Labs, we believe in improving brains—and lives. That's why we created a simple online tool to allow anyone to achieve their brain's full potential. Drawing on the latest neuroscience breakthroughs, Lumosity's brain training program is shown to work. No matter what your age or background, you can feel smarter, sharper, and brighter.



### The web's #1 brain training program

Over 40 million people already use Lumosity.com, and we're adding more each month. These users join Lumosity to achieve big goals, make daily life easier, and just feel a little brighter. And thanks to Lumosity training, users report positive and profound results.

[Read user stories »](#)

### Developed by neuroscientists

Lumosity's groundbreaking program is based on extensive research in the field of neuroplasticity. Our in-house R&D team works with researchers from Berkeley, Columbia, and more to create the most effective training possible.

[Read more about the science »](#)



### Proven benefits

Multiple studies have been published on Lumosity's ability to improve key abilities such as working memory, visual attention, fluid intelligence, and executive function. No matter what your age, improving these core cognitive abilities can improve real-life abilities.

[Read more about the proven benefits »](#)





START TRAINING

LOG IN

# About Lumosity

OVERVIEW

OUR TEAM

PARTNERS

## Partners

At Lumos Labs, we believe in building strong relationships not just with our users, but also with other researchers and businesses. We've worked hard to develop a community of scientists, medical researchers, healthcare providers, and news outlets committed to the benefits of brain training. This growing network includes researchers at Columbia, Berkeley, and Harvard. It also includes organizations such as Touchstone Health, Blue Cross Blue Shield, and Medi-Care First.

[Learn about how you or your institution can partner with Lumos Labs »](#)



HUMANA



guardian.co.uk



Telegraph

RealAge®  
Live Life  
to the Youngest\*POPULAR  
SCIENCE

## Scientific Board

### Moriah Thomason, Ph.D.

Pediatrics and Psychology, Wayne State University and the Merrill Palmer Skillman Institute. Her work is focused on studying the changes in a child's brain over time that lead to improvements in emotion regulation and cognitive control.

### Cris Niell, Ph.D.

Neuroscience, University of Oregon. Studies the anatomical and functional changes in neurons during the development of the visual system.

### Michael Walker, Ph.D.

Jun 14, 2013 2:30:03 PM

President of Walker Bioscience, Consulting Professor at Stanford University. Specialization in biostatistics, biotechnology, and bioinformatics for biotechnology R&D.

**Elizabeth Race, Ph.D.**

Neuroscience, Boston University, Memory Disorders Research Center. Currently researching the neural substrates of memory and cognitive control in younger and older adults and memory disorders in patients with amnesia.

**Jennifer Tsui, Ph.D.**

Neuroscience, McGill University. Studying cell signaling pathways and visual system plasticity. Doctoral work examined the molecular underpinning of memory and learning.

**Raag Airan, MD, Ph.D.**

Radiology, Johns Hopkins University School of Medicine and Internal Medicine, Washington Hospital Center. Develops optical tools for studying the neural basis of neuropsychiatric diseases.

**Wesley C. Clapp, Ph.D.**

Neuroscience, Neuroscouting LLC. Specialization in human neural plasticity as well as major research interests in memory, attention, distraction and aging.

## Collaborators

**Martin Buschkuehl, PhD and Susanne Jaeggi, PhD**

University of Michigan

Dual N-Back training to improve fluid intelligence in healthy adults

**Thomas Dannhauser, PhD**

University College London

Combining Lumosity training, physical fitness, and social engagement to improve outcomes in patients with mild cognitive impairment (MCI)

**Maurice Finn and Skye McDonald, PhD**

University of New South Wales

Lumosity training to improve cognition in patients with mild cognitive impairment (MCI)

**Anett Gyurak, PhD**

Stanford University

Improving emotion regulation in young adults through cognitive training

**Shelli Kesler, PhD**

Stanford University

Improving cognitive outcomes in cancer survivors and children with genetically based learning disabilities

**Christine Hooker, PhD**

Harvard University

Lumosity training to improve outcomes in patients with schizophrenia

**Chris Johnson, PhD**

University of California, San Diego

Lumosity training to improve outcomes in combat veterans suffering from traumatic brain injuries

**Eric Johnson, PhD**

Columbia University

Decision making over the lifespan

**George Loewenstein, PhD**

Carnegie Mellon University

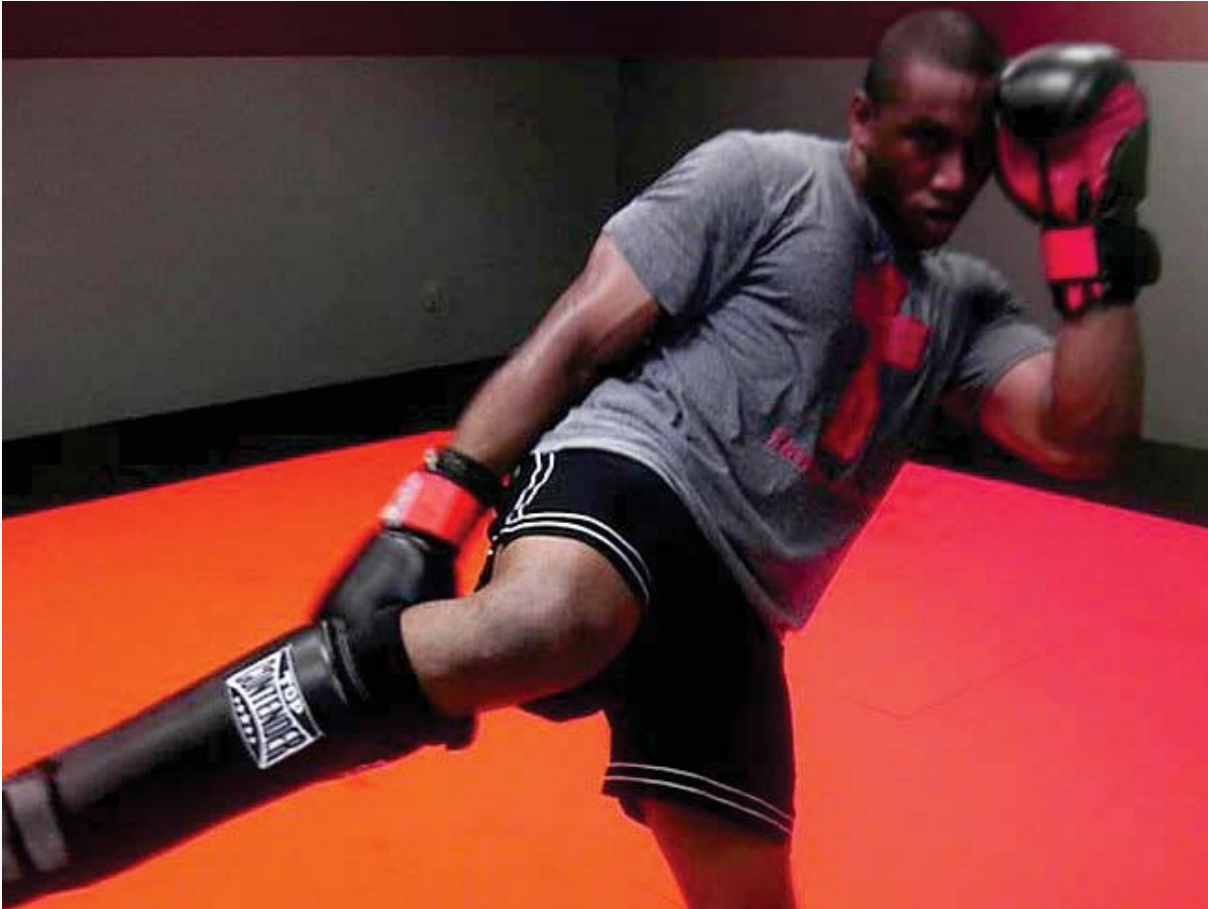
Incentivizing healthy behavior in elderly

[ABOUT LUMOSITY](#) [HUMAN COGNITION PROJECT](#) [USER STORIES](#) [CONTACT](#) [JOBS](#) [PRESS](#) [LEGAL](#) [ACTIVATION CODES](#) [HELP](#)

[GO TO LUMOSITY HOME](#)



[LOG IN](#)



## John P. | FAIRFAX

When I saw the commercial for Lumosity, I joined right away. I had been slow in making decisions, slow in adapting to changing situations in my everyday life, and forgetful. I've been practicing mixed martial arts (thai boxing, muay thai, wrestling, jiu jitsu, grappling) since early April and I'm not surprised that my most significant progress has been since early June, when I started doing Lumosity.

It is crucial that I think quickly, listen, remember, and focus on what I do because if I don't...I get punched in the face! As a mixed martial artist, my body has to be loose,

but I must be thinking about what my opponent is doing and what I will do next. I have to see their entire body without staring at where I'm going to strike next so I won't give it away. If they change their stance, I have to change mine; if they mix up their punches and kicks, I have to adapt to it; if we go from fighting on our feet to fighting on the ground, my mind has to switch entirely from punches and kicks to grappling and submissions; things can go in any direction.

I learn several different combinations every day and if I am slow to apply them, my penalty is pain. The biggest problem is if I think too hard, I get stiff and don't move—and I must always be loose and moving. Lumosity's Speed and Attention games have helped things slow down for me when I'm fighting an opponent. As soon as he moves, I can see what he's doing and effectively react. The Memory programs have helped me remember my combinations so I can be really loose and not try to think so hard. The Flexibility programs (mainly Brain Shift) have challenged me the most because I've had a problem with getting really tense and panicking as my brain "shifts," but the game has helped me to relax; so if I go from muay thai, to wrestling, to jiu jitsu, back to muay thai, I can effectively react and use the right techniques.

All of these aspects combined together have made a dramatic difference. I haven't fought professionally, but when I spar I am a lot smoother than I was a month ago and I panic a lot less; which leads to me landing the punches and not my opponent! My whole aim in doing martial arts is not to hurt anyone though. It's to conquer my body. Without good cognitive skills, this couldn't effectively happen. I believe that the mind, the body, and the spirit must be in balance and now, my mind is finally getting with the program! Thanks Lumosity!

## Related Stories



[GO TO LUMOSITY HOME](#)



[LOG IN](#)



## Kade A. | BOISE

I play goalie, which requires fast reflexes in order to stop 80 mph balls coming at me. I'm heading to college soon for lacrosse, most likely at Princeton. Lumosity has helped my reaction time, attention in class, and my test scores! Without Lumosity I wouldn't be this successful! I'd recommend it to anyone and everyone!

## Related Stories

# Brain Trainer by Lumosity.com

## Basic Training • Session 3

Results indicate that Lumosity can improve a wide variety of core cognitive skills - from attention and memory to intelligence and math skills. These improved abilities can help people do better in school, perform more effectively at work, and live a more productive life. Learn more about the science behind Lumosity in the Science section.

**Start Training**

You are in a 5 session free trial

## Your progress

CURRENT FOCUS: **Intro**

OVERALL BPI ?



Training



Games



Profile



Science



More